

California Electrical Energy Generation

California Electrical Energy Generation* Total Production, by Resource Type (Gigawatt Hours)

[For years 1983 - 1999](#)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
California Generation plus Net Imports *	246,876	267,399	274,444	280,026	290,211	289,177	298,454	304,823	307,448	299,101	291,310	293,875	302,113	296,569
Total Hydroelectric	42,053	24,988	31,359	36,341	34,490	40,263	48,559	27,105	24,460	29,220	34,327	42,731	27,459	24,098
Large Hydroelectric	N/A	20,691	26,647	30,931	29,589	34,228	41,861	23,071	20,352	24,699	29,145	36,355	23,133	20,754
Small Hydroelectric	N/A	4,297	4,712	5,410	4,901	6,034	6,698	4,034	4,108	4,522	5,182	6,376	4,326	3,343
Nuclear	43,533	33,294	34,353	35,594	30,241	36,155	32,036	35,698	32,482	31,509	32,214	36,666	18,491	17,860
In-State Coal	3,183	4,041	4,275	4,269	4,086	4,283	4,190	4,217	3,977	3,735	3,406	3,120	1,580	1,018
Oil	449	379	87	103	127	148	134	103	92	67	52	36	90	38
Natural Gas **	106,878	116,369	92,752	94,715	105,358	97,110	109,316	120,459	123,036	117,277	109,916	91,276	121,761	120,896
Geothermal	13,456	13,525	13,396	13,329	13,494	13,292	13,093	13,029	12,907	12,907	12,740	12,685	12,733	12,485
Biomass	6,086	5,761	6,196	6,092	6,080	6,076	5,861	5,743	5,927	6,096	5,960	5,986	6,121	6,466
Wind	3,604	3,242	3,546	3,316	4,258	4,084	4,902	5,570	5,724	6,249	6,172	7,598	9,242	12,694
Solar	860	836	851	759	741	660	616	668	733	851	912	1,097	1,834	4,154
Other	0	38	35	108	48	24	34	15	39	20	12	13	14	14
Direct Coal Imports***	23,877	23,699	23,653	23,148	24,504	24,114	14,452	14,417	14,463	13,556	13,119	13,032	9,716	11,824
Other Imports****	2,897	41,227	63,941	62,253	66,785	62,967	65,263	77,799	83,608	77,615	72,481	79,633	93,071	85,022
Total In-State Generation	220,102	202,473	186,851	194,625	198,922	202,096	218,740	212,606	209,377	207,931	205,711	201,210	199,326	199,723
Governmental and Utility-Owned In-State Generation	99,733	67,208	70,484	76,406	71,246	83,213	91,801	83,085	79,345	81,897	86,369	94,169	71,162	68,941
Total Hydroelectric	41,001	21,449	26,395	29,984	28,992	33,210	39,979	23,203	20,676	24,367	28,271	34,437	22,693	20,506
Large Hydroelectric	N/A	18,322	23,198	26,411	25,807	29,301	35,731	20,553	17,991	21,431	24,998	30,432	19,902	18,341
Small Hydroelectric	N/A	3,127	3,197	3,574	3,185	3,910	4,248	2,649	2,684	2,935	3,272	4,006	2,791	2,164
Nuclear	43,533	33,294	34,353	35,594	30,241	36,155	32,036	35,698	32,482	31,509	32,214	36,666	18,491	17,860
In-state Coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oil	157	123	43	41	51	58	51	53	53	45	35	30	29	28
Natural Gas	13,747	11,344	8,537	9,591	10,814	12,788	18,743	23,142	25,157	25,050	24,954	22,066	28,763	29,394
Geothermal	1,252	996	1,150	1,190	1,140	997	970	975	947	903	846	858	875	817
Biomass	34	0	4	4	6	2	20	12	28	18	38	37	39	20
Wind	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar	3	3	2	2	2	2	2	2	3	5	11	73	273	317
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial In-State Generation	120,369	135,265	116,367	118,220	127,676	118,883	126,938	129,521	130,031	126,034	119,341	107,041	128,164	130,782

Total Hydroelectric	1,052	3,539	4,965	6,357	5,498	7,052	8,579	3,902	3,784	4,854	6,057	8,294	4,767	3,592
Large Hydroelectric	N/A	2,369	3,450	4,520	3,782	4,928	6,130	2,517	2,361	3,267	4,147	5,924	3,231	2,413
Small Hydroeletic	N/A	1,170	1,515	1,837	1,716	2,125	2,449	1,384	1,423	1,586	1,910	2,370	1,535	1,179
Nuclear	0	0	0	0	0	0	0	0	0	0	0	0	0	0
In-state Coal	3,183	4,041	4,275	4,269	4,086	4,283	4,190	4,217	3,977	3,735	3,406	3,120	1,580	1,018
Oil	293	256	44	62	76	90	83	51	39	22	17	6	61	11
Natural Gas	93,130	105,025	84,215	85,124	94,544	84,322	90,573	97,317	97,880	92,227	84,962	69,210	92,999	91,502
Geothermal	12,204	12,528	12,246	12,139	12,354	12,295	12,123	12,054	11,960	12,004	11,894	11,826	11,858	11,668
Biomass	6,052	5,761	6,192	6,088	6,074	6,074	5,841	5,731	5,899	6,078	5,922	5,949	6,081	6,446
Wind	3,597	3,242	3,546	3,316	4,258	4,084	4,902	5,570	5,724	6,249	6,172	7,598	9,242	12,694
Solar	857	834	848	757	739	658	614	666	730	846	901	1,024	1,561	3,837
Other	0	38	35	108	48	24	34	15	39	20	12	13	14	14
Energy Exports	N/A	14,854	6,534	6,026	4,825	5,685	5,056	5,586	5,064	4,629	5,054	5,146	4,974	3,281
Pacific Northwest	N/A	5,846	1,020	1,471	1,532	2,061	2,518	2,620	2,242	1,871	1,809	1,133	761	809
Pacific Southwest	N/A	9,007	5,514	4,555	3,292	3,623	2,539	2,966	2,822	2,759	3,245	4,013	4,213	2,472
Energy Imports	N/A	79,780	94,128	91,427	96,113	92,766	84,771	97,802	103,136	95,800	90,653	97,811	107,760	100,127
Pacific Northwest	N/A	12,672	28,206	23,775	22,363	22,347	22,321	27,289	26,201	21,800	26,486	36,352	40,231	35,897
Pacific Southwest	N/A	67,107	65,921	67,652	73,750	70,419	62,450	70,514	76,935	74,000	64,168	61,459	67,529	64,230
Net Energy Imports	26,774	64,926	87,594	85,401	91,289	87,081	79,714	92,217	98,072	91,171	85,599	92,665	102,786	96,846
Pacific Northwest	18,777	6,826	27,186	22,303	20,831	20,286	19,803	24,669	23,959	19,929	24,677	35,219	39,470	35,088
Pacific Southwest	7,997	58,100	60,408	63,097	70,458	66,795	59,911	67,547	74,113	71,241	60,922	57,446	63,317	61,758

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
California Generation plus Net Imports *	199,609	211,900	210,172	211,028	220,371	232,926	238,567	252,355	242,343	245,535	242,026	256,719	256,367	253,621	230,243	244,577	243,077
Total Hydroelectric	59,351	46,880	33,898	44,478	27,140	26,692	32,742	26,092	23,244	22,373	41,595	25,626	51,665	47,883	41,400	48,757	41,627
Large Hydroelectric	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Small Hydroeletic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nuclear	6,738	13,467	18,911	28,000	32,995	35,481	33,803	36,586	37,167	38,622	36,579	38,828	36,186	39,753	37,267	41,715	40,419
In-State Coal	563	731	865	1,033	1,163	1,791	2,479	3,692	3,050	3,629	2,549	2,655	1,136	2,870	2,276	2,701	3,602
Oil	6,535	2,632	2,790	3,126	2,143	8,158	9,275	4,449	523	107	2,085	1,954	489	693	143	123	55
Natural Gas **	45,486	58,248	69,771	49,260	75,437	74,221	78,916	76,082	75,828	87,032	70,715	95,025	78,378	66,711	74,341	82,052	84,703
Geothermal	7,020	9,272	10,957	13,094	14,083	14,194	15,247	16,038	15,566	16,491	15,770	15,573	14,267	13,539	11,950	12,554	13,251
Biomass	731	1,099	1,171	2,063	2,461	4,092	5,204	6,644	7,312	7,362	5,760	7,173	5,969	5,557	5,701	5,266	5,663
Wind	52	192	655	1,221	1,713	1,824	2,139	2,418	2,669	2,707	2,867	3,293	3,182	3,154	2,739	2,776	3,433
Solar	2	11	33	64	188	315	471	681	719	700	857	798	793	832	810	839	838
Other	0	0	0	6	5	4	4	4	0	2	0	0	0	343	896	230	0
Direct Coal Imports***	17,001	18,080	14,112	17,588	17,544	19,243	17,223	17,710	20,392	28,806	20,358	22,440	16,788	22,590	22,411	22,570	22,802
Other	56,130	61,288	57,009	51,095	45,499	46,911	41,064	61,959	55,873	37,704	42,892	43,354	47,514	49,696	30,310	24,993	26,685

Net Energy Imports	73,131	79,368	71,121	51,095	63,043	66,154	58,287	79,669	76,265	66,510	63,250	65,794	64,303	72,285	52,721	47,563	49,487
Pacific Northwest	38,375	41,027	37,146	31,632	24,977	19,893	17,739	31,665	28,819	19,600	15,466	15,315	19,890	29,529	25,204	19,428	26,051
Pacific Southwest	34,756	38,341	33,975	19,463	38,066	46,261	40,548	48,004	47,446	46,910	47,784	50,480	44,412	42,757	27,517	28,136	23,436

* **Note:** Note: The data in this table is based on corrections and updates as of April 2014.

** **Note:** Electric generation categories, such as natural gas, are attributed based on the primary fuel of the plant. With the recent addition of biogas contracts being applied to existing natural gas plant supply contracts, the Total System Power table is not intended to be used as a measure of the state's progress toward the large variety of renewable generation and greenhouse gas emission goals. It is intended to be used as a guide only.

*** **Note:** The Direct Coal Imports category is based on reported ownership shares and contractual arrangements for power purchases by California utilities. Due to legislative changes required by Assembly Bill 162 (2009) and to simplify the characterization of coal power generation, only Utah's Intermountain Power Project and Nevada's Mohave Generation Station (closed as of 2006) are included in the reported Direct Coal Imports for 1983 through 2012 on this table. A more detailed analysis of the role of coal-based power generation within California is outside the scope of this table. The California Air Resources Board is currently undertaking the task of identifying the fuel source of all imported power into California. When comparing coal and other power imports over time, the best approach is to compare the combined value of Net Energy Imports.

**** **Note:** In this tabulation, generation located physically out-of-state is included in the energy imports category. The energy imports and exports include all electricity flows in and out of the state as reported by four California Balancing Authorities: California Independent System Operator, Los Angeles Department of Water and Power, Imperial Irrigation District, and Balancing Area of Northern California plus generation at six out-of-state power plants that are within one or more of these Balancing Authorities' control areas but are physically located outside California. These plants include Intermountain Power Plant (coal) in Utah, Mohave Generation Station (coal) in Nevada (now closed), Terra-Gen Dixie Valley plant (geothermal) and Desert Star Plant (natural gas) in Nevada, Termoelectrica de Mexicali Plant and InterGen's La Rosita Plant (natural gas) both of which are in Mexico. Power generated by these plants is not reported by Balancing Authorities as imports, hence their inclusion in this methodology. Finally, imports reported by Balancing Authorities do not include associated fuel source information. Fuel sources for out-of-state power are only reported by load serving entities under Power Source Disclosure and Power Content Label reporting requirements. As presented here, imports are only known for their geographic origin and not their fuel source origin. For a more detailed view of annual imported fuel sources, please refer to [Total System Power](#)

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